

**USE OF RECOMBINANT PARAINFLUENZA VIRUSES (PIVs) AS
VECTORS TO PROTECT AGAINST INFECTION AND DISEASE
CAUSED BY PIV AND OTHER HUMAN PATHOGENS**

ABSTRACT OF THE DISCLOSURE

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Chimeric parainfluenza viruses (PIVs) are provided that incorporate a PIV
vector genome or antigenome and one or more antigenic determinant(s) of a heterologous
PIV or non-PIV pathogen. These chimeric viruses are infectious and attenuated in humans
and other mammals and are useful in vaccine formulations for eliciting an immune responses
against one or more PIVs, or against a PIV and non-PIV pathogen. Also provided are
10 isolated polynucleotide molecules and vectors incorporating a chimeric PIV genome or
antigenome which includes a partial or complete PIV vector genome or antigenome
combined or integrated with one or more heterologous gene(s) or genome segment(s)
encoding antigenic determinant(s) of a heterologous PIV or non-PIV pathogen. In preferred
aspects of the invention, chimeric PIV incorporate a partial or complete human, bovine, or
15 human-bovine chimeric, PIV vector genome or antigenome combined with one or more
heterologous gene(s) or genome segment(s) from a heterologous PIV or non-PIV pathogen,
wherein the chimeric virus is attenuated for use as a vaccine agent by any of a variety of
mutations and nucleotide modifications introduced into the chimeric genome or antigenome.

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